

Common Web Mapping and Mobile Device Framework for Display of NASA Real-time Data

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ABSTRACT

Scientists have strategic goals to deliver their unique datasets and research to both collaborative partners and more broadly to the public. These datasets can have a significant impact locally and globally as has been shown by the success of the NASA Short-term Prediction Research and Transition (SPoRT) Center and SERVIR programs at Marshall Space Flight Center. Each of these respective organizations provides near real-time data at the best resolution possible to address concerns of the operational weather forecasting community (SPoRT) and to support environmental monitoring and disaster assessment (SERVIR). However, one of the biggest struggles to delivering the data to these and other Earth science community partners is formatting the product to fit into an end user's Decision Support System (DSS). The problem of delivering the data to the end-user's DSS can be a significant impediment to transitioning research to operational environments especially for disaster response where the deliver time is critical. The decision makers, in addition to the DSS, need seamless access to these same datasets from a web browser or a mobile phone for support when they are away from their DSS or for personnel out in the field. A framework has been developed for MSFC Earth Science program that can be used to easily enable seamless delivery of scientific data to end users in multiple formats. The first format is an open geospatial format, Web Mapping Service (WMS), which is easily integrated into most DSSs. The second format is a web browser display, which can be embedded within any MSFC Science web page with just a few lines of web page coding. The third format is accessible in the form of iOS and Android native mobile applications that could be downloaded from an "app store". The framework developed has reduced the level of effort needed to bring new and existing NASA datasets to each of these end user platforms and help extend the reach of science data.